

REMARKS

Claims 1, 3-6, and 10, 14, 16-18, and 20-21, 23-25 are rejected under 35 USC 103a as being unpatentable over Suzuki (Publication No. U.S. 20040079864 A1) in view of Hawryluk (US Patent No. 6,303,917 B1)

5 Applicant asserts that claims 1, 3-6, and 10, 14, 16-18, and 20-21, 23-25 should not be found unpatentable over Suzuki in view of Hawryluk because there is no motivation to combine the teachings of Hawryluk and Suzuki. Applicant additionally asserts that claims 6, 18, and 25 of the present invention should not be found unpatentable over Suzuki in view of Hawryluk because there are features claimed in claims 6, 18, and 25 that neither Suzuki nor
10 Hawryluk teach.

 The Examiner stated in the current Office action (mailed 06/26/2006) that “Suzuki does not disclose a non-volatile memory for storing the power relationship determined by the first microprocessor during the calibration mode, the power relationship determined by the first microprocessor during the normal operations for controlling values of the drive signal
15 according to desired powers of the light emitting device. Hawryluk shows in Fig.3, a non-volatile memory (27, ie, memory) for storing the power relationship determined by the first microprocessor (combination of processor (26), and A/D converter (31)) during the calibration mode (col. 9, lines 28-35), the power relationship being used by the first microprocessor during normal operations for controlling values of the drive signal according
20 to desired powers of the light emitting device. **It would have been obvious to one skilled in the art to provide the non-volatile memory of Hawryluk to the device of Suzuki for the purpose of storing control instructions (for device operation) and sample data for calculations.**” (Office action dated 06/26/2006 – emphasis added)

 Concerning obviousness type rejections, MPEP section 2142 states, “The tendency to
25 resort to ‘hindsight’ based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”

Additionally, MPEP section 2143.01 states, "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." The same MPEP sections also provides the following reminders concerning 35 USC 103 obviousness type rejections:

1. "FACT THAT REFERENCES CAN BE COMBINED OR MODIFIED IS NOT SUFFICIENT TO ESTABLISH PRIMA FACIE OBVIOUSNESS"
2. "THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE"
3. "THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE"

Applicant respectively asserts that there is actually no motivation for a person skilled in the art to combine the teachings of Hawryluk with those of Suzuki as stated above by the Examiner because such a combination would render the design of Suzuki unsatisfactory for its intended purpose due to changing its principle of operation.

Suzuki discloses a "high speed sampling circuit" (see title of Suzuki) for use in power control operations such as disclosed in [0021] stating, "Fig.1 is a block chart for illustrating a configuration of one embodiment of a laser power control circuit provided in an optical disc apparatus according to the present invention". Applicant firstly notes that a light emitting device calibration system (claimed in present invention) is not equivalent to a laser power control circuit (disclosed by Suzuki). That is, the purpose of the power control circuit disclosed by Suzuki involves finding a directly proportional linear relationship between IP1, IP2, IP3 and P1, P2, P3 according to the laser performance. For example, please refer to Fig.6 of Suzuki and the related description in the specification in paragraph [0053] stating, "As illustrated in Fig.6, the laser performance may be represented by inclination of a straight line. Thus, a control-input signal IP3 required for the LD 3 to generate a light beam having the

third light intensity level P3 may be obtained from the following formula: $IP3 = IP1 + (P3 - P1) / \text{Performance}$ ". In this way, the generated light power of the LD 3 can be adjusted. Such operation is not equivalent to calibration of a light emitting device as is claimed in the present invention because, utilizing the same parameters values for comparison, the present invention is concerned with determining the absolute specific numerical slope and offset of the 'performance' line. This is in contrast to Suzuki who does not teach or suggest how to calculate the absolute P1, P2 values, which would require an accurate sensor and unchanging signal values in order to determine. Suzuki instead teaches, "a comparison device that compares the light intensity with the first and second references levels, and a driving current adjustment device that adjusts magnitude of a driving current that drives the light source in accordance with a result of the comparison." (see paragraph [0010])

From this difference in principle of operation, it becomes clear that the design of Suzuki would not be benefited by the inclusion of "a non-volatile memory for storing the power relationship determined by the first microprocessor during the calibration mode, the power relationship being used by the first microprocessor during normal operations for controlling values of the drive signal according to desired powers of the light emitting device", as is claimed in claim 1 of the present invention. The Examiner stated such a modification of the design of Suzuki would be obviously and beneficial given the teachings of Hawryluk "for the purpose of storing control instructions (for device operation) and sample data for calculations." (OA mailed 06/26/2006) However, firstly, applicant notes that storing control instructions for device operation and sample data for calculations as was stated as motivation by the Examiner does not appear to have anything to do with "storing the power relationship determined by the first microprocessor during the calibration mode, the power relationship being used by the first microprocessor during normal operations for controlling values of the drive signal according to desired powers of the light emitting device", as is claimed in claim 1 of the present invention. Secondly, as explained above, utilizing such a power relationship during normal operations would interfere with the power control design of Suzuki because Suzuki already requires calculating light power intensities in order to find "a control-input

signal IP3 required for the LD 3 to generate a light beam having the third light intensity level P3" (see paragraph [0053]), for example. That is, there is no "calibration mode" taught by Suzuki. Instead power control is performed according to the specific principle of operation of Suzuki shown above involving the slope of the performance line and driving the light source in accordance with the result of the comparison between the light intensity with the first and second references levels by the comparison device. Combining the non-volatile memory of Hawryluk to the device of Suzuki is not obvious and is not even beneficial because such a combination would both render Suzuki unsatisfactory for its intended purpose and change the principle of operation of the Suzuki design. Namely, the original intended power control of Suzuki would no longer be able to be performed because the power relationship stored in the non-volatile memory would be utilized instead according to the teachings of Hawryluk. A similar argument also applies to the USC 35 103 obvious type rejections of independent claims 14 and 23. Reconsideration of claims 1, 14 and 23 is respectfully requested. As claims 3-12, 16-21, 24-26 are dependent upon claims 1, 14, and 23, respectfully, if claims 1, 14, and 23 are found allowable, so too should the dependent claims. Further comments regarding the patentability of specific dependent claims are provided below.

Concerning dependent claims 6, 18, and 25 of the present invention, one difference between Hawryluk's apparatus and the present invention is the "signal calibration circuit", as is claimed in claim 6 of the present invention for example. Hawryluk discloses in Fig.2 and Fig.3 that the energy signal 19 is directly connected to the analog to digital converter (A/D Converter 21), whereas in the present invention (as shown in Fig. 2 and 5), the photo sensor 214 of the power meter 204 is first coupled to a signal calibration circuit 216 during the calibration mode. This signal calibration circuit 216 can be shared between many devices under test, as it is only connected to the device under test 202 and the power meter 204 during calibration mode and will be removed in the normal operation mode, which solves the problem of great variations between different device under test. Claim 6 of the present invention claims the calibration system includes a signal calibration circuit coupled between the device under test and the power meter, and is for receiving the analog signal outputted by

the power meter and outputting the power indication having an inverse relationship with the analog signal. Applicant points out that such claimed elements and functionality are not taught by Hawryluk. Suzuki is also silent on said elements and functionality. Referring to Fig.1 of Suzuki, applicant points out that there is also no signal calibration circuit coupled
5 between the device under test and the power meter, as is required in claim 6 of the present invention. For at least the reason that neither Suzuki nor Hawryluk teach specific limitations of the present invention as claimed in claim 6, applicant asserts that a combination of Suzuki and Hawryluk cannot thereby teach the present invention as is claimed in claim 6. A similar argument applies for dependent claims 18 and 25. Reconsideration of claims 6, 18, and 25 is
10 respectfully requested.

**Claims 8-9 and 11-12 are rejected under 35 USC 103a as being unpatentable over Suzuki (Publication No. U.S. 20040079864 A1) as applied to claims 1, 3-6, 8, and 10-12, 14, 16-18, and 20-21 above, and further in view of Kawakami (Publication No. US
15 2003/0235126 A1)**

Claims 8-9 and 11-12 are dependent on claims believed allowable over the cited references as stated above. For at least these reasons, applicant asserts claims 8-9 and 11-12 should also be found allowable. Reconsideration of claims 8-9 and 11-12 is respectfully
20 requested.

Claims 7, 19, and 26 are rejected under 35 USC 103a as being unpatentable over Suzuki (Publication No. U.S. 20040079864 A1) as applied to claims 1, 3-6, 8, and 10-12, 14, 16-18, and 20-21 above, and further in view of Sasaki (US Patent No 5,040,163)

Claims 7, 19, and 26 are dependent on claims believed allowable over the cited
25 references as stated above. In particular, applicant has shown reasons that the independent claims 1, 14, and 23 of the present invention should be allowable, and has also shown additional reasons that the dependent claims 6, 18, and 25, should be allowable. Because claims 7, 19, and 26 are directly dependent on claims 6, 18, 25 and are ultimately dependent

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on base claims 1, 14, and 23, for at least the same reasons provided in the above remarks, applicant asserts claims 7, 19, and 26 should also be found allowable. Reconsideration of claims 7, 19, and 26 is respectfully requested.

5 Sincerely yours,



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Winston Hsu, Patent Agent No. 41,526

10 P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

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